



**[4910-13]**

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 25**

#### **[Docket No. FAA-FAA-2012-0624; Special Conditions No. 25-464-SC]**

**Special Conditions:** Gulfstream Aerospace LP (GALP), Model Gulfstream G280 airplane;

Isolation or Aircraft Electronic System Security Protection from Unauthorized Internal Access.

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final special conditions; request for comments.

**SUMMARY:** These special conditions are issued for the Gulfstream Aerospace LP, Model Gulfstream G280 airplane. This airplane will have novel or unusual design features associated with connectivity of the passenger service computer systems to the airplane critical systems and data networks. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for these design features. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

**DATES:** The effective date of these special conditions is June 7, 2012. We must receive your comments by [insert date 45 days after Federal Register publication date].

**ADDRESSES:** Send comments identified by docket number FAA-2012-0624 using any of the following methods:

- Federal eRegulations Portal: Go to <http://www.regulations.gov/> and follow the online instructions for sending your comments electronically.

- Mail: Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE., Room W12-140, West Building Ground Floor, Washington, D.C., 20590-0001.
- Hand Delivery or by Courier: Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, D.C., between 8 a.m. and 5 p.m., Monday through Friday, except federal holidays.
- Fax: Fax comments to Docket Operations at 202-493-2251.

Privacy: The FAA will post all comments it receives, without change, to <http://www.regulations.gov/>, including any personal information the commenter provides. Using the search function of the docket web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the Federal Register published on April 11, 2000 (65 FR 19477-19478), as well as at <http://DocketsInfo.dot.gov/>.

Docket: Background documents or comments received may be read at <http://www.regulations.gov/> at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, D.C., between 9 a.m. and 5 p.m., Monday through Friday, except federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Varun Khanna, FAA, Airplane and Flight Crew Interface Branch, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW, Renton, Washington 98057-3356; telephone 425-227-1298; facsimile 425-227-1149.

## **SUPPLEMENTARY INFORMATION:**

The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions are impracticable because these procedures would significantly delay issuance of the design approval and thus delivery of the affected aircraft. In addition, the substance of these special conditions has been subject to the public comment process in several prior instances with no substantive comments received. The FAA therefore finds that good cause exists for making these special conditions effective upon issuance.

### **Comments Invited**

We invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

We will consider all comments we receive by the closing date for comments. We may change these special conditions based on the comments we receive.

### **Background**

On March 30, 2006, Gulfstream Aerospace LP (hereafter referred to as “GALP”) applied for a type certificate for their new Model Gulfstream G280 (hereafter referred to as “Model G280”) airplane. The Model G280 is a two-engine jet transport airplane with a maximum takeoff weight of 39,600 pounds and an emergency exit arrangement to support a maximum of 19 passengers. Although the Model G280 design includes occupancy provisions for pilot and copilot only (no passengers), GALP requested issuance of these special conditions to support efficient design and certification of passenger cabin interiors through the supplemental type certification process.

## **Type Certification Basis**

Under the provisions of Title 14, Code of Federal Regulations (14 CFR) 21.17, GALP must show that the Model G280 meets the applicable provisions of part 25, as amended by Amendments 25-1 through 25-120, thereto, and Amendment 25-122. In addition, the certification basis includes certain special conditions, exemptions, and equivalent safety findings that are not relevant to these special conditions.

If the Administrator finds that the applicable airworthiness regulations (i.e., 14 CFR part 25) do not contain adequate or appropriate safety standards for the Model G280 because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, the special conditions would also apply to the other model.

In addition to the applicable airworthiness regulations and special conditions, the Model G280 must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36; and the FAA must issue a finding of regulatory adequacy under § 611 of Public Law 92-574, the “Noise Control Act of 1972.”

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.17(a)(2).

## **Novel or Unusual Design Features**

The Model G280 will incorporate the following novel or unusual design features: digital systems architecture composed of several connected networks. The proposed architecture and network configuration may be used for, or interfaced with, a diverse set of functions, including:

1. Flight-safety related control, communication, and navigation systems (aircraft control functions);
2. Airline business and administrative support (airline information services), and;
3. Passenger information and entertainment systems (passenger entertainment services).

## **Discussion**

The Model G280 integrated network configuration may allow increased connectivity with external network sources and will have more interconnected networks and systems, such as passenger entertainment and information services, than previous GALP airplane models. This may allow the exploitation of network security vulnerabilities and increased risks potentially resulting in unsafe conditions for the airplane and its occupants. This potential exploitation of security vulnerabilities may result in intentional or unintentional destruction, disruption, degradation, or exploitation of data and systems critical to the safety and maintenance of the airplane. The existing regulations and guidance material did not anticipate these types of system architectures. Furthermore, 14 CFR regulations and current system safety assessment policy and techniques do not address potential security vulnerabilities which could be exploited by unauthorized access to airplane networks and servers. Therefore, these special conditions are being issued to ensure that the security (i.e., confidentiality, integrity, and availability) of airplane systems is not compromised by unauthorized wired or wireless electronic connections between airplane systems and the passenger entertainment services.

## **Applicability**

As discussed above, these special conditions are applicable to the Model G280. Should GALP apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions would apply to that model as well.

## **Conclusion**

This action affects only certain novel or unusual design features on one model of airplane. It is not a rule of general applicability.

The substance of these special conditions has been subjected to the notice and comment period in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. Therefore, because a delay would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

## **List of Subjects in 14 CFR Part 25**

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

## **The Special Conditions**

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Gulfstream Aerospace LP, Model Gulfstream G280 airplanes.

1. Isolation or Aircraft Electronic System Security Protection from Unauthorized Internal Access. The applicant must ensure that the design provides isolation from, or airplane electronic system security protection against, access by unauthorized sources internal to the airplane. The design must prevent inadvertent and malicious changes to, and all adverse impacts upon, airplane equipment, systems, networks, or other assets required for safe flight and operations.
2. The applicant must establish appropriate procedures to allow the operator to ensure that continued airworthiness of the aircraft is maintained, including all post type certification modifications that may have an impact on the approved electronic system security safeguards.

Issued in Renton, Washington, on June 7, 2012.

Michael Kaszycki, Acting Manager  
Transport Airplane Directorate  
Aircraft Certification Service

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